



Patent
Attorney's Docket No. 032885-001

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of)	
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John P. WONG)	Group Art Unit: 2161
)	
Application No.: 09/810,246)	Examiner: H. J. Alaubaidi
)	
Filed: March 19, 2001)	Confirmation No.: 8377
)	
For: MIRROR FILE SYSTEM)	

REQUEST FOR RECONSIDERATION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Office Action dated April 7, 2005, Applicant respectfully requests reconsideration and withdrawal of the rejections of the claims.

Claims 1-5 and 7-10 were rejected under 35 U.S.C. 103(a) as being unpatentable over the Duso et al patent (US 6,625,750) in view of the Enoki et al patent (US 5,873,085)¹. Applicant respectfully submits that these patents do not disclose, nor otherwise suggest, the subject matter of the rejected claims, whether considered individually or in combination.

The Office Action alleges that the Duso patent discloses all of the subject matter recited in claims 1-3, 7 and 9, with the exception of elements in a virtual file system "having an application interface data structure with two associated pointers that respectively point to application interface data structures of a corresponding component in each of ... two physical file systems" as recited in claim 1. It is respectfully submitted, however, that there are additional differences between the claimed subject matter and the Duso patent. For example,

¹ The Duso and Enoki patents are not references of record, and were not listed on Form PTO-892 that accompanied the Office Action nor posted on the PTO PAIR site for the application. If the examiner intends to make these patents part of the record, he is requested to issue a Form PTO-892 listing them.

claim 1 recites “mounting components of each of ... two physical file systems in a single directory.” In connection with this subject matter, the Office Action refers to the Duso patent at Column 10, lines 39-48. This portion of the Duso patent describes two file systems, one UFS, one CMFS, mounted on different directories of a single server. The two file systems, UFS and CMFS, are mounted on *two separate directories*. The CMFS is mounted within the UFS hierarchy or on the root directory '/' “as a stand-alone root file system.” These two file systems, UFS and CMFS are not mounted under a single directory, as recited in the claims.

Furthermore, even if the two file systems could be considered to be mounted under a single directory, claim 1 further recites “a virtual file system data structure containing elements which respectively correspond to each of the mounted components.” In connection with this subject matter, the Office Action refers to the Duso patent at Column 9, lines 47-65; and Column 10, lines 48-50. The Duso patent describes how a single file system, UFS or CMFS, interfaces with the operating system's Virtual File System (VFS) and NFS. The term VFS, as used in the patent, refers to an industry-standard *back-end file system switch* (Column 9, lines 55-57; Column 10, lines 47-49). This disclosure does not suggest the claimed subject matter, in which the data structure of the virtual file system contains elements that respectively correspond to each of the mounted (e.g. UFS and NFS file systems) components. The Duso patent does not suggest that the industry-standard back-end file system *switch* contains elements that correspond to those in each of two mounted physical file systems. Rather, as its name implies, it functions as a switch to direct read and write requests to the appropriate one of the two physical file systems.

In connection with the acknowledged difference noted above, i.e. an application interface data structure with two associated pointers, the Office Action refers to the Enoki patent at Figures 3, 8, 11, 15-18, 30, 32, 37a-37b and 46a-46b, as well as Column 3, lines 9-16 and the Abstract. Each of the cited figures depicts an example of a management table that provides a mapping between a virtual file identifier and a real file identifier. It is not apparent how these figures are being interpreted to suggest the claimed subject matter. The Enoki patent discloses a virtual file management apparatus that is concerned with directing a file

request from a terminal to a real file stored on a file server on a network. All of the figures and text pertain to mapping between a *single* virtual file identifier and a *single* real file identifier on one server. Enoki does not disclose how a write request to a virtual file identifier from a terminal can be directed to two real files stored on two different servers. As such, it does not disclose that each element in a file system data structure has an application interface data structure with “two associated pointers that *respectively* point to application interface data structures of a corresponding component in *each* of two physical file systems” as recited in claim 1. Consequently, any possible application of Enoki’s teachings to the system of the Duso patent would not result in the claimed subject matter.

With respect to claim 4, the Office Action states that the Duso reference discloses all of the claimed subject matter with the exception of the step of receiving a request to perform a write operation on one of the components, and performing the write operation on both copies of the component in two physical file systems. To this end, it refers to the Enoki patent at Column 15, lines 17-26 and Column 28, lines 9-27.

As discussed above, there are additional differences between the disclosure of the Duso patent and the claimed subject matter. Furthermore, Enoki's teaching pertains to how a write request from a terminal is to be redirected to a *single* server, where the real file is stored, by means of a one-to-one mapping of management table. The cited portions of the patent do not disclose that a write request is performed on *both* copies of a component in *two* physical file systems, respectively.

Furthermore, since the Enoki patent is directed to operations on a single server having a single file system, it cannot be interpreted to suggest the additional elements of the invention recited in claims 5 and 8, which pertain to features that are common to two physical file systems, i.e. path names and mount point.

Claim 6 was rejected under 35 U.S.C. 103(a) as being unpatentable over the Duso and Enoki patents in further in view of the Mukherjee patent (US 6,466,978).² The Mukherjee

² This patent also is not of record and was not cited in the Form PTO-892 accompanying the Office Action, nor posted on the PAIR site for the application.

patent was relied upon for its alleged teaching of acquiring a lock for each copy of a component, and inhibiting write operations until both locks can be acquired, with reference to Column 17, lines 56 through Column 18, line 15. However, it is respectfully submitted that the Mukherjee patent only discloses the locking of two status tables within a system. It does not disclose how the inhibit process would work if one table is locked and the other table cannot be locked. In addition, Mukherjee's lock is not associated with a file and has nothing to do with the integrity of a file or of the data contained in it.

Claims 11-16³ were rejected under 35 U.S.C. 103(a) as being unpatentable over the Enoki patent in view of the Soltis patent (US 6,697,846).⁴ The Office Action states that the Enoki patent discloses: a first server (Figure 30, Element 3001a) having a first local file system (Figure 30, Element 3004a) and a first physical storage device; and a second server (Figure 30, Element 3001b) having a second local file system (Figure 30, Element 3004b) and a first physical storage device. The Action alleges that the first server and second server provide a single point of access for components stored in each of the first and second local file systems, with reference to Figure 30 and its corresponding text.

Enoki's Figure 30 shows that each server has a file system. However, the file systems in that figure, located on two separate servers, have no relationship with one another. Of particular significance, they are not mounted under a single directory anywhere, whether on a server or a client (terminal), so as to provide a single access point for components stored in each of two local file systems.

The Office Action acknowledges that the Enoki reference does not disclose a client system having a virtual file system which mounts an imported file system. To this end, therefore, it refers to the Soltis patent at Figure 2, Element 122, Figure 4, and Column 9, line 65 through Column 10, line 12 as disclosing such subject matter.

3 Although Section 8 of the Office Action only cites claims 11-14, it is believed the examiner intended to include claims 15 and 16 in the statement of rejection.

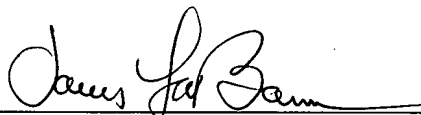
4 The Soltis patent also is not of record and was not cited in the Form PTO-892 accompanying the Office Action, nor posted on the PAIR site for the application.

The Virtual File System 122 in Figure 2 of the Soltis patent is a virtual file system interface (VFS, Column 5, line 29-33; Column 8, lines 17-20). The depiction of client 106 in Figure 2 is used to describe how the Shared File System implementation and MFS (Meta-data File System) Client implementation use the Virtual File System interface 122. It does not disclose how the Virtual File System interface mounts two file systems. A virtual file system interface, by its very nature, cannot mount any file system.

For at least the foregoing reasons, it is respectfully submitted that the newly applied references do not suggest the subject matter of the pending claims to a person of ordinary skill in the art. Reconsideration and withdrawal of the rejections, and allowance of all pending claims, are therefore respectfully requested.

Respectfully submitted,
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